REMARKS

In response to the Office Action mailed 24 March 2004, the Applicant respectfully requests the Examiner to reconsider the above-captioned application in view of the above amendments and the following comments.

Claims 1-21 were previously pending in this application. The Examiner has rejected all of the pending Claims. With the above amendment, the Applicant has amended Claim 20. Reconsideration of this claim set as amended is respectfully requested.

Response to Drawing Objections:

The Examiner has objected to the drawings and noted a number of items requiring correction. In order to address and overcome the objections of the Examiner, new drawings are submitted herewith. The Applicant submits that these new drawings overcome each of the grounds for objection that the Examiner has raised, and respectfully requests that the Examiner enter these new drawings into the application and withdraw the drawing objections.

Specifically, the drawings address the concerns of the Examiner with respect to the issue of incompleteness by removing the incorrect reference to Figure 4. There is no Figure 4 intended to be included with this application, and the appropriate corrections have been made to the specification in order to eliminate the confusion and apparent incompleteness. Furthermore, those items previously referenced in the specification as being present in Figure 4 are now correctly identified in the specification as being found in Figure 3, in which the appropriate reference numbers are found. In addition, Figures 1 and 2 have been modified to more clearly identify the memory 120 and processor 121 as components of the satellite 12. The Applicant has also removed the inconsistent labeling of the earth station 14 across the Figures.

The Applicant also notes that reference number 100, which appears in the original Figures and Claims, is now properly referenced in the amended specification. Specifically, on page 3, line 20, the reference number for the communications network now appears correctly as "100", rather than "10", as originally submitted. In addition, the

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reference numbers 310 and 410 that were previously missing in the drawings are properly placed in Figures 2 and 3 as appropriate.

The Applicant submits that with these corrections, taken in conjunction with the amendments made to the specification above, all of the Examiner's objections to the drawings have been addressed and requests entry of the drawings and withdrawal of the drawing objections.

Specification Amendments

The Examiner has noted certain issues in the specification. Specifically, the Examiner has noted that the word "Therefore" is misspelled on page 1 of the specification, that Figure 4 is not included in the Brief Description of the Drawings, and that certain reference numbers are missing from the paragraph beginning on page 6 at line 21. The Applicant has amended the specification as noted above in order to correct the misspelling and add the requested reference numbers. The specification has also been amended to remove the inadvertent reference to Figure 4 and properly refer only to the drawings shown in Figures 1 to 3.

In addition, the Applicant has taken this opportunity to correct certain typographical and grammatical errors identified in the specification. These amendments do not add new material to the specification, and the Applicant requests that the Examiner enter the amendments to the specification above.

Claim Rejection under 35 U.S.C. §112

The Examiner has rejected Claim 20 as lacking antecedent basis for the phrase "said step of executing said executable code". The typographic error in the dependence of this claim has been corrected by the above amendment, and Claim 20 now properly depends from Claim 14, which includes the step of executing code. With this amendment, an appropriate antecedent basis for this language in Claim 20 is now provided, and the Applicant respectfully requests that the Examiner withdraw the rejection under §112 from Claim 20.

Rejection of Claims under 35 U.S.C. §102(b) over U.S. Patent 6,580,716

The Examiner has rejected independent Claims 1 and 13, as well as Claims 6 and 10 which depend from Claim 1, as being anticipated under 35 U.S.C. §102(b) by U.S. Patent No. 6,580,716 to Falk et al. (hereinafter "Falk '716"). The Applicant notes that the presently pending application was filed on 2 June 2000. Falk '716 was filed on 29 September 1999 and patented on 17 Jun 2003. Because Falk '716 was neither patented nor available as a printed publication more than one year prior to the filing date of the pending application, the Applicant submits that Falk '716 is not a proper reference to support a rejection under 35 U.S.C. §102(b). The Applicant therefore respectfully requests that the Examiner withdraw this rejection from Claims 1, 6, 10 and 13.

In addition, the Applicant submits that the all elements of independent Claims 1 and 13 are not found in the cited reference, and that therefore the Falk '716 reference does not anticipate the rejected claims at all. The Examiner suggests in particular that the satellite of the Falk '716 reference comprises an active node because the satellite performs ATM switch functions. The Examiner also states that the switch functions as an operating system and ATM is an execution environment. However, the satellite of Falk '716 does not comprise an active node.

As stated in the specification and noted by the Examiner, an active node includes a node operating system and an execution environment. The node execution environment "implements a virtual machine that users can program or control by transmitting objects thereto. The EE interprets the objects delivered to it." Specification, page 6, lines 18-20. The objects being delivered include code for the virtual machine that is to be interpreted, i.e., executed. No portion of the Falk '716 disclosure contemplates sending new executable code to the satellite to modify its behavior.

It is executing this code (e.g. the method 214 that comprises a portion of the object 210 being transmitted to the satellite) that allows the operation of the spacecraft to be "dynamically reconfigured to support OSI modeled communications." Specification, page 6, line 8. The Falk '716 satellite is not dynamically reconfigurable. This can be clearly seen by the statement at Column 4, lines 43-47 of Falk '716: "By leaving only the functions that are more *likely to remain static* (emphasis added) onboard the processing

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satellite 104, the distributed ATM switch may be much more 145 (sic) easily adapted to future protocol changes." This makes clear that no new methods are being sent for onboard execution at the satellite, and the adaptability of the distributed ATM switch is made possible because the ground elements of the switch can be reprogrammed without reprogramming the satellite.

The capability to execute code transmitted to the satellite is a function of the execution environment. This execution environment is part of the "active node". Because the capability to execute code transmitted to the satellite is not taught by the Falk '716 reference, the satellite of the reference does not include an execution environment, and therefore does not teach or suggest an "active node" as recited in both Claims 1 and 13 of the pending application.

Because, as explained above, all the elements of independent Claims 1 and 13 are not found in the Falk '716 reference, the reference does not anticipate these Claims. The Applicant therefore respectfully requests that the Examiner reconsider the §102 rejection of Claims 1 and 13, as well as those claims that depend from Claims 1 and 13, and pass Claims 1, 6, 10 and 13 to allowance.

Rejection of Claim under 35 U.S.C. §102(b) over U.S. Patent 6,430,167

The Examiner has rejected independent Claim 21 as being anticipated under 35 U.S.C. §102(b) by U.S. Patent No. 6,430,167 to Falk (hereinafter "Falk '167"). The Applicant notes that the presently pending application was filed on 2 June 2000. Falk '167 was filed on 3 August 1998 and patented on 6 August 2002. Because Falk '167 was neither patented nor available as a printed publication more than one year prior to the filing date of the pending application, the Applicant submits that Falk '167 is not a proper reference to support a rejection under 35 U.S.C. §102(b). The Applicant therefore respectfully requests that the Examiner withdraw this rejection from Claim 21.

In addition, the Applicant submits that the all elements of Claim 21 are not found in Falk '167, and that therefore the Falk '167 reference does not anticipate Claim 21 at all. In particular Claim 21 recites, among other limitations, an earth station node configured to transmit an "object 210 comprising data 212 and a protocol 214 associated

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with said data 212" to a spacecraft. Although the Falk '167 reference does describe earth station nodes transmitting information that includes a destination address, the Falk '167 reference does not include the transmission of a protocol method to the spacecraft. The Falk '167 reference describes a system that reads a destination from the transmitted information and transmits to that destination. However, Falk '167 does not describe the sending of new protocol *methods* to the satellite.

Because the reference does not teach the limitation of transmitting an object comprising a protocol as recited in Claim 21, Falk '167 does not anticipate Claim 21. The Applicant therefore respectfully requests that the Examiner reconsider the §102 rejection of Claim 21 and pass this claim to allowance.

Rejection of Pending Claims 2-5, 7-9, 11-12 and 14-20 under 35 U.S.C. §103

The Examiner has rejected independent Claim 14, as well as Claims 2-5, 7-9, 11-12 and 15-20 which depend from Claims 1 and 14, as being unpatentable under 35 U.S.C. §103 over Falk '716 in view of one or more of the following U.S. Patents: 6,377,561 to Black et al. ("Black"); 6,078,577 to Bishop, Jr. et al. ("Bishop"); 5,594,780 to Wiedeman ("Wiedeman"); and Falk '167. The Applicant respectfully disagrees with these rejections and submits that the amended claims are not rendered unpatentable by the combination of the Falk '716 reference with any of the other references, singly or taken in combination. The Applicant respectfully requests that the Examiner withdraw the §103 rejections as applied to the amended claim set for the reasons discussed below.

Claims 2-5, 7-9 and 11-12 depend from Claim 1. As discussed above with regard to the §102 rejection, Claim 1 includes elements not taught by the Falk '716 reference. The features discussed above, specifically an active node, are also not presented in any of the other references cited in rejecting dependent claims 2-5, 7-9 and 11-12. The references describe enhancements to various satellite communications systems, but none include a capability to receive code transmitted from a ground station to be executed on board the satellite and dynamically reconfigure the operation of the spacecraft to support OSI model communications. Therefore, the combination of these references does not teach or suggest all of the recited elements of any of these claims.

Claims 15-20 depend from independent Claim 14. Claim 14 recites among other limitations, transmitting to a spacecraft an object comprising "data conforming to at least one protocol, and at least one method comprising executable code for implementing said protocol", as well as "at said spacecraft executing said code". This is not found in any of the cited references, either singly, or taken in combination. As discussed above, none of the references describe sending executable code defining a protocol associated with the data being transmitted and executing such code on board the satellite. The Examiner suggests that ATM switch coordination information as discussed in Falk '716 "can be protocol and executable code" (see page 8, lines 4-5 of the Office Action), but there is no support for that in Falk '716. Falk '716 states that some information is sent between ground and satellite stations in order to coordinate the operation of the distributed ATM switch. Falk '716 gives examples of this information including UPC setup information, information to set up the routing tables, and information to request the transmission of system performance metrics. (See Column 4, lines 31-40 of Falk '716.) However, none of this information represents executable code. The only types of code discussed in Falk '716 are the functions performed by the various parts of the distributed ATM switch. And the code for these functions is not transmitted to or from the satellite.

Because Claim 14 includes elements that are neither taught nor suggested by the cited references, the combination of cited references does not render Claim 14 unpatentable. The Applicant submits that Claims 1 and 14 are patentable over the cited art, and that those claims that depend from Claims 1 and 14 are therefore patentable over the cited art as well. The Applicant therefore respectfully requests that the Examiner withdraw the rejection under 35 U.S.C. §103 of Claims 2-5, 7-9, 11-12 and 14-20 and pass these claims to allowance.
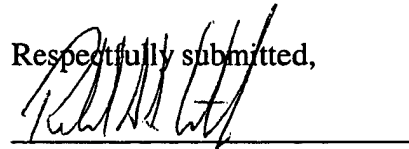
CONCLUSION

In light of the amendment and remarks presented herein, Applicant submits that the case is in condition for immediate allowance and respectfully requests such action. If any issues remain unresolved, the Examiner is invited to telephone the Applicant's

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counsel at the number provided below so that a resolution can be most effectively reached.

Respectfully submitted,

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Date